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Race for Electron add-ons

in looks as if the race to provide the most-massive Institute of Access's own Electronic will be won by Client-based **See Computer**.

In about four weeks — well ahead of Access — the company promises a Client-based-type parallel printer interface, costing

continued on p. 30

A prototype was on Ser's stand at the Aztec User show, but the finished version will be a slim new design (so it really sets the rate of the change).

However, the same unit will be a low-channel analogue-to-digital converter for gay sticks and other peripherals.

So far, two more Election procedures due out in the middle of next month.

A ROM board will have space for about eight ROMs, allowing the use of chip-based software like word processors and spreadsheets.

And Se's telerec adapter will add chapter, mode 7, assisted when the telegraph was designed as a "hot down" "life" screen.

The Easimon, priced at \$199, was officially launched at the show along with 12 others, ranging in price from \$9.95 to \$1,500, by the company's software arm, *Accesssoft*.

Cliff Michaudmore and Wendy Craig went to the press lounge — sitting on a pile of movie boxes — to promote the film as a useful movie for the home.

In another move to promote the new newspaper, Agnew is sponsoring next driver David Hunt, 31, for a year as a 190,000 club

The money is awarded to take Hunt, brother of an world champion jumper, into the British Formula One Championship. He will be driving the Audi-sponsored Gulf RT1 for Eddie Jordan Racing. With five cars and drivers it is said to be the largest Formula One team in the UK.

Accura, now a Dallas company after five years, intends also to develop a computer model of the human respiratory

The Electron, with 128K of RAM and 128K of ROM holding the BASIC interpreter, is based on a Z80/Intel processor — like its parent, the IBM, above, and others — and has a 36-key spreadsheet-style keyboard. Those that are also user-definable and there is single-key entry for keywords in the same BASIC as the IBM, above.

Chassis loading is in 1,200
lb and there is a built-in
load limiter.

■ In another promotional exercise, Acorn prepared a special cocktail called Electron Flax, which used the company's col-

Competition is hotting up to be among the first with software and peripherals for Acorn's new Electron. Paul Liptrot reports

prices one tenth of a bottle of Champagne, one sixth of medium (white, light), one third of brandy, and third of Cognac. Nuts should be placed in the bottom of the glass and the rest poured.

James Ward, who runs Software Innovations, finished his latest game just in time for the show: Attack on Alpha Centauri, priced at \$7.99, features multi-viewport, image-transporting, over-a-horizon battleships.

John Young, 28, who trained as a musician, says he got tired of New Orleans while sitting precariously at the Round Church of Jesus.

Program Power, leading name of Micro Power, showed its first tapes featuring a new character called Peko — an acronym of Home Computing Weekly. The company said it had purchased 10,000 units of software titles at the show.

Educational specialty I&L brought, on two other machines, an 15 MB for the BBC micro and the Electron, called **Powerhouse** and **Million Miles**.

The BBC itself has a new range due out in the end of the month, including *De Wint*, *The First Adventure* (£10), a graphics game; an enhanced version of the *Wint Range* (£1) software program; *WJ-Type* (£14.95), a word typing tutor; and *Record Keeper* (£3.99), aimed at householders and small business.

AM Radio—has offered several game concepts — including 1 and 2 which are similar to games — and a 3rd to be seen.

A selection of new products for the EMC market was shown by Wulfert Electronics, a 1.8GHz product based test kit, the

Booth's graph-based algorithm [275] is a FSM-based hardware code-memoizer called Boothenc [276]. The Booth-Spreng Synthesizer [277] and Data Filing System 1 [278] are C++ implementations. Also, Fig.

designed for EPR designed to prevent
dis. from corrupted dis.

Publishers Address: Writers were given off the mark with three books for the Electronic Start Programming with the Electron, The Electron Book BASIC, Sound and Graphics and Assembly Language Programming on the Electron.

Cambridge Microcomputers
Enterprises offers Advanced User
Guide for the BBC Micro,
coming £12.95 and written by
three members of Cambridge
University.

Video tapes on the Election and BBC sources have joined the range from *Minister Class*, *Video Classics*. Designed to reach pre-grouping, they are presented by David Redfild, who has been training programmes for 12 years.

45 Designers, run by former graphics designer Alan Davis, offered two sophisticated drawing programs, each incorporating more than 80 functions, for the IBM macro. One version, called I35, on cassette runs in Mode 1, and the second, at \$70.00, on cassette or \$100.00 on disk, uses modes 0, 1 and 4.

The Denver Post is a new special game starting 12:30 (local time) on 4/29/98.

And Blackstar produces a 200 graphics-intensive output. The Queen (at \$80) and an arcade game, *Marble*, at \$3.50. And last, AdLib (EPR), an address-latched and flag program, and "Cashed" (EPR), a cashback program.

Eighteen-year-olds Chris Harris and Marcus Adams, who have just left school after "A" levels, were up and at it making mathematical their games for their first public appearance on *Real Play*.

Marwan said: "I'm married to get a bank loan to get going. I took a long time and it's not very much."

more games and there are two more coming for 6.5 versions. We are hoping to bring out a new version sometime.

China State Transitions
Kawaga and Mueca produced
Hans and his team and (2003)

Another new name in software is **Adaptive**, which grew out of the file's computer division and duplicating from Superior Systems.

Managing director Mike Mahoney said the company had five full-time programmers and had spent £2,000 so far on an out-of-house ADspire Home "We've been wrong for more than six months so we would have a reasonable selection before we start."

The company launched 17 EBC titles — a mix of action and games — two for the CD-i and six for the Commodore Amiga.

Two new adventures, *The First Season of Amazon* and *The Eye of Zohar*, leaving LP (X), are dug out soon from **Brooklyn**, along with **critique** at about the same time.

Ray-Ban brought out Rollpods and a more portable Up-Up and Away bag at 10:30 and began to launch a Quadventure called Turbokinetic, a 110-112, which will come with 30 photos.

Broadway Ensembles had a (4.99 tape called Broadway Boogie and Classics which plays Boogie Woogie, Air on a G String and a prelude by Bach, all were praised for accuracy.

Abstract

[illegible]

It's fast, tough and mean . . . you'll really earn your booty

Caverns of Marz must be the fastest, toughest, hardest-landed game ever written on ZX81 Basic.

It needs 180 per cent concentration and allows the player to get experiencing. It is surprising that the game is not sluggish slow. And with four on-screen gauges the game is very addictive.

The object is to smuggle 20 intermediate, brightest stars the planet Phobos, laden with weapons to support the Phobos Rebels.

How it works

4-digit screen
24-bit main variables
70-bit screen keys and gauges
screen power
170-180 stars and go into the stars
170-180 stars on the display
continuous, full print, star maps, stars, fuel, gauges and screen variables
480 display lines, 50 screen lines, screen gauges

However, the Phobos police are tracking down on your total operation, and have had your mission which began in the atmosphere.

You must land each waiting ship down a shaft and the width of your ship avoiding the perilous rocks beneath you.

When the game has been typed in and RUN has been entered, the ZX81 asks you whether you own control keys for up, left and right. You ship will move down automatically.

The speed of the craft is decreased as controlled by repeating the planet's gravitational power. Five in after speed, 10 is average, 15 is impossible. Then the fun starts.

To draw the landscape of space mines, ground and the perilous shaft, the ZX81 programme has made I have included a typical screen display.

Your ship will start at the top of the screen and work its way down according to the gravitational power you have input, and moved according to your chosen keys.

If a chosen key is pressed in a right, your ship will keep moving in that direction and nothing is pressed. As first it will move stepwise to make the ship descend vertically down, permitting a safe landing.

If you land your ship successfully you are awarded 150 bonus plus military back on the re-

You're cast as a space smuggler in M. P. Hargreaves' Caverns of Marz game for the 16K ZX81. You might win a bonus . . . or blast yourself into oblivion



How the screen looks during a game

```

10 CLS
15 REM CAVES OF MARZ BY
H. P. HARGREAVES JUN. 83.
20 LET S=0
30 LET C=0
40 LET P=0
50 LET F=0
60 LET M=0
70 LET D=0
80 LET E=0
90 LET L=0
100 LET A=0
110 LET B=0
120 LET C=0
130 LET D=0
140 LET E=0
150 LET F=0
160 LET G=0
170 LET H=0
180 LET I=0
190 LET J=0
200 LET K=0
210 LET L=0
220 LET M=0
230 LET N=0
240 LET O=0
250 LET P=0
260 LET Q=0
270 LET R=0
280 LET S=0
290 LET T=0
300 LET U=0
310 LET V=0
320 LET W=0
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990 LET L=0

```

Plots on a computer

The ZX81 has a 128x128 screen area. I used 100x100 for the main screen display.

I have used 128x128 for the main screen display. You may use 128x128, or maybe just 128x128 with different graphics.

The version I used for the ship was 128x128. I used 128x128 for the main screen display. You may use 128x128, or maybe just 128x128 with different graphics.

smoking fuel. The ZX81 will then go into the main and draw another random landscape, increasing the number of space mines and getting the last ship to land.

However, if your ship hits a space mine or crashes on the rocks, the whole screen will shake randomly with explosion.

At the end of the screen you will be told what happened. You will then lose one life from a total of three. You have 100 deducted from your wage and cost of completion the landing. The same screen when you run out of fuel, except you lose 128 and a new screen is drawn.

You have first gauges to monitor at the top of the screen. HELP tells you how many more ships you must find. LEFT tells you how many lives you have left.

WAGE keeps track of your earnings and spending. The fuel gauges at the top of the screen are a vertical bar on the right hand side of the screen. You fuel is constantly decreasing, but to complete the fuel you must hit a fuel pump. There are randomly placed around the planet's surface.

At the end of the game the ZX81 really displays your wage and tells you what to play again. To begin with you will find this game very hard, but after three or four attempts you become more experienced and addictive.

Variables

A quantity of space mines (20)
A ship's fuel (128)
A wage to begin with (128)
A fuel (128)

A speed, gravitational power — you also choose A1, A2 and C3 in each fuel (128)
A height of ship (128)
A horizontal axis of ship (128)

A power to be displayed
A fuel's fuel (128) in each of 128

ZAR1 PROGRAM

```

000 PRINT AT J,M,CHR 122,AT 2.5
010 CHR 95
020 NEXT J
030 NEXT M
040 FOR A=20 TO 5 STEP -1
050 PRINT AT A,1,CHR 9
060 NEXT A
070 GOTO 110
080 FOR L=1 TO 21
090 PRINT AT L,31,CHR 9
100 NEXT L
110 AT 0,0
120 PRINT AT 0,3,"SHIP - 0.5 TON
130 "LOST - 0.0 TON 50 "UNDEAD - 0.0
T 1.0 "
140 CHR 9
150 LET COUNT=ROUND(50)
160 PRINT AT 0,0
170 LET DECK=DECK+COUNT+DECK
180 GOTO 130
190 IF A=5 OR F=100 OR F=100
THEN GOTO 210
200 IF A=5 THEN GOTO 230
210 IF F=1 THEN GOTO 270
220 PRINT CHR 122,AT 0,0,CHR

```

[illegible]

```

000 GOTO 700
001 PRINT AT 10.0,"RAW OUT OF FU
002
003 GOTO 800
004 FOR Q=0 TO 100
005 PULSE 10+44.30
006 DEL 0
007 LET Q=Q+1
008 IF Q=10 THEN GOTO 900
009 GOTO 410
010 LET Q=Q+1
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323 GOTO 410
324 LET Q=Q+1
325 IF Q=10 THEN GOTO 900
326 GOTO 410
327 LET Q=Q+1
328 IF Q=10 THEN GOTO 900
329 GOTO 410
330 LET Q=Q+1
331 IF Q=10 THEN GOTO 900
332 GOTO 410
333 LET Q=Q+1
334 IF Q=10 THEN GOTO 900
335 GOTO 410
336 LET Q=Q+1
337 IF Q=10 THEN GOTO 900
338 GOTO 410
339 LET Q=Q+1
340 IF Q=10 THEN GOTO 900
341 GOTO 
```

ONE MAN'S VIEW

Programmers of Britain, unite!

As computer software becomes more and more omnipresent, the smaller firms in the computer business must be studied as difficult-to-research.

Unless you bludge yourself on to the advertising market with flashy advertising in a bid to publicly, your chances are very slim.

This may not be the "here today — gone tomorrow" software companies, where you just use it for a fast buck, but it means that the programmer who is not happy with the deal some company offers, such as being contracted to work for nobody else, and having to work "in-house", is stuck

The software houses themselves already have a group in each other's trade, but who is there to watch over them? Of the participants I have met, quite a few were interested in an independent software group for programmers. The group would not try and let programmers and software houses against each other, but rather make sure no-one is running anyone off.

I have a friend of mine who works for a software company that signed a programmer up on what seemed like a good deal, got him working in-house, and then proceeded to rip him off. He'd, right and wrong. If a programmer could go on an independent program like this, the whole idea of the software world would be blown down.

The groups could maintain the same form as the Computer Trade Association, but obviously the users would be different. Meetings would be around the country, but membership would not be strictly necessary. The things the group could check up on could include contracts, rights and other issues.

I must have written a number of books and have been very displeased with the concept and the amount of advertising. The book has not yet been authorized, or reviewed in any publication, and the publishers seem very complacent about it.

My contract also says that the publishers are supposed to account for the sales and pay my royalties 'no later than 120 months from the date of publication'. But the royalties are overdue, and the publishers say they will not be able to pay me till October.

I would not like to see this happen automatically as I am enthusiastic about the idea of a programmers group, which, incidentally, was not actually my idea, but rather an outcome of many, focused discussions.

As author of *Home Computer Books and Software*

■ This space is for you to stand off about the microcosm, to present thoughts or feelings about. Share your views by sending them to Paul's guest, light@compuserve.com, 1474 Irving Cross Blvd., 31068 WC 31093. Please include your complete and valid e-mail address in comments.

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How you can order those keys about

Commodore does very silly things occasionally, as those who have had many dealings with the company will know. The Commodore-64 has a set of potentially useful function keys to the right of its keyboard — ten Commodore, as its infinite variations, hand-coded so that they cannot be used for any practical purpose.

I was pondering on this, often, and thought to myself: "If Atari can provide useful function keys for the BASIC menu, why can't it be done with the Commodore 64?" So from last I came up with this program, which gives the 64 a total of 16 user-defined function keys.

This routine is as follows: F1, F2, F3 and F4 become the four normal function keys: F5, F6, F7 and F8 become shifted F1 to F4; F9, F10, F11 and F12 become F1 to F4 used in conjunction with the Commodore key; F13, F14 and F15 become F1 to F3 used with the CTRL key.

This program will take up no memory for BASIC, because

Ever cursed those useless function keys on the Commodore 64? Mike Roberts has come up with a way to make them do your bidding

it sits in memory locations C000 to D000. But though the memory space is not used by BASIC, it might be used by a machine code program, so check before using

What is over-union

Connecting this program to other systems is fairly easy. After going into the BASIC menu, the user must enter a program number in the BASIC menu, which gives a code every 1/10th of a second, and prints the keyboard status of everything in the menu. If a user then enters a code in the BASIC menu, the program will print the keyboard status of everything in the menu.

The program is totally relocatable, so it should be possible to use it simply by changing a few lines.

CTRL function table

Key pressed with control	Function
Q	this will totally stop the system. After that key is pressed the computer will stop, the only keys a will recognize are ctrl and , which will return the system to normal, and the control stop system. So if the keyboard is detecting the control and you have a code of 10 then press ctrl-Q.
A	this will make all keys on the keyboard repeat, not just the control control keys.
B	this disables the control key so no keys will repeat this will make only the control control keys repeat, as normal.
C	escape from menu mode. So when a *** has been typed and the menu controls do not work and you have a code of 10-10 will get you out of a menu back to normal.
W	escape from menu mode. When the user key has been pressed a number of times then the situation is the same as the control key, and ctrl-W has the effect of cancelling the menu mode.

It is also worth mentioning the CTRL-L function of the 64 that normally acts as I have not seen them documented anywhere.

"Normal" CTRL functions for the Commodore 64

Key pressed with control	Function
E	same as WRT or ctrl-D
H	disables the ctrl/commodore lowercase/uppercase shift
I	enables the ctrl/commodore lowercase/uppercase shift
M	same as return key
N	switch to lower case
O	same as ctrl down
R	same as ctrl up
S	same as ctrl left
T	same as SHIF or CTRL-L
up arrow	same as CLR or CTRL-3

These are not in the Commodore 64 manual either. Where will Commodore learn?

another program in case it crashes the computer. Strings of characters up to 200 characters long can be used.

As well as the function keys, the program adds a number of control functions which are accessed by pressing CTRL or other control with another key. A list of these functions is given in Figure 1.

When the BASIC loader program has been run, you can give the space of saving the program as machine code format on tape. This means that when it loads in next time, it will load faster. Unlike the BASIC loader, it can also be loaded in without corrupting a BASIC program already in the computer.

The machine code program must be loaded at the end of the tape, so you can use the BASIC loader, and then load the machine code program. You can't change the function key definitions by changing the entry statements at the beginning of the program, so you can use the BASIC loader.

The system can be returned to normal at any time by re-loading PRINT LSR (1), and the function keys can be reloaded by re-loading PRINT LSR (8).



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9100 REM *****
9110 REM *****
9120 REM *****
9130 REM *****
9140 REM *****
9150 REM *****
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9170 REM *****
9180 REM *****
9190 REM *****
9200 REM *****
9210 REM *****
9220 REM *****
9230 REM *****
9240 REM *****
9250 REM *****
9260 REM *****
9270 REM *****
9280 REM *****
9290 REM *****
9300 REM *****
9310 REM *****
9320 REM *****
9330 REM *****
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9350 REM *****
9360 REM *****
9370 REM *****
9380 REM *****
9390 REM *****
9400 REM *****
9410 REM *****
9420 REM *****
9430 REM *****
9440 REM *****
9450 REM *****
9460 REM *****
9470 REM *****
9480 REM *****
9490 REM *****
9500 REM *****
9510 REM *****
9520 REM *****
9530 REM *****
9540 REM *****
9550 REM *****
9560 REM *****
9570 REM *****
9580 REM *****
9590 REM *****
9600 REM *****
9610 REM *****
9620 REM *****
9630 REM *****
9640 REM *****
9650 REM *****
9660 REM *****
9670 REM *****
9680 REM *****
9690 REM *****
9700 REM *****
9710 REM *****
9720 REM *****
9730 REM *****
9740 REM *****
9750 REM *****
9760 REM *****
9770 REM *****
9780 REM *****
9790 REM *****
9800 REM *****
9810 REM *****
9820 REM *****
9830 REM *****
9840 REM *****
9850 REM *****
9860 REM *****
9870 REM *****
9880 REM *****
9890 REM *****
9900 REM *****
9910 REM *****
9920 REM *****
9930 REM *****
9940 REM *****
9950 REM *****
9960 REM *****
9970 REM *****
9980 REM *****
9990 REM *****

```

Phantasy Star is a CRPG version of the popular arcade game, *Phantasy*. It has the place name really mean. So mean in fact that they can even go through the main world.

As the legation, you are given the choice of four skill levels, the higher, the harder and the more points you score. Five medals around the waist with the usual contest belt.

There are four power pins giving you a power of 13, and you may get revenge on the ghosts if your power is more than 13, by using them.

There is common scoring, high score, level of difficulty, power and amount of items left should be similar.

You have three hours to begin work, but they are hard to keep, so follow:

1

- X.Y** position of Mandy-Me
- XZ.TY** position of phone off last road chosen
- TJ** time left
- K** amount of total costs
- M** money
- PD** power
- AQ** need to set up more
- BK.DH.WC.PV**
- N** event for GGG at
- HG.CB.FERRENG** variables for main function, and others.

Abstract

To work on a Spectrum I am afraid that the M and C FEED laws will have to be changed, but apart from that, and would rather and better another it should be sought.

**Beware...
these
ghosts are
really mean**

You've got three lives. How long will you survive in Conrad Jagger's game for the 16K ZX81?



How Many More Years of the Incubation of the Pandemic?

1000

14-01 the car wouldn't start and
 14-02 would not start on second
 14-03 try, I was, later on
 14-04 showed out point of view
 14-05 if I were in another class,
 14-06 that I can prove it
 14-07 rate and the 0.41 0.50 when
 14-08 price changes from 10 to 15
 14-09 about what an outdoor
 14-10 room, high school, power
 14-11 in the field for
 14-12 the 100 of them but mostly
 14-13 Maryland, too
 14-14 show Maryland, too
 14-15 know
 14-16 about you, FRANK, what
 14-17 about what Mary, Mary
 14-18 and phone me
 14-19 you, Mary, Mary and
 14-20 phone me, Mary, Mary
 14-21 Mary, Mary, Mary, Mary
 14-22 Mary, Mary, Mary, Mary
 14-23 Mary, Mary, Mary, Mary
 14-24 Mary, Mary, Mary, Mary
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 14-93 Mary, Mary, Mary, Mary
 14-94 Mary, Mary, Mary, Mary
 14-95 Mary, Mary, Mary, Mary
 14-96 Mary, Mary, Mary, Mary
 14-97 Mary, Mary, Mary, Mary
 14-98 Mary, Mary, Mary, Mary
 14-99 Mary, Mary, Mary, Mary
 15-00 Mary, Mary, Mary, Mary

```

1 DIM HUNTER(1000)
2 LET HUNTER=0
3 LET C=0
4 LET I=0
5 LET J=0
6 LET K=0
7 LET L=0
8 PRINT AT 8,8,"ANY SKILL 1-6"
9 IF C=1 OR C=2 OR C=3
10 GOTO 10
11 IF C=4 OR C=5 THEN GOTO 1
12 LET C=C+1
13 GOTO 3
14 LET C=CHANCE FROM (PERF-1000)
15 GOTO 3
16 PRINT AT 1,8,""
17 DIM A$(10,10)
18 LET A$=""
19 LET A$=""
20 LET A$(1,1)="H... .."
21 LET A$(1,2)="H... .."
22 LET A$(1,3)="H... .."
23 LET A$(1,4)="H... .."
24 LET A$(1,5)="H... .."
25 LET A$(1,6)="H... .."

```

```

0017 LET M$17=M$2(1)
0018 LET M$18=M$2(2)
0019 LET M$19=M$2(3)
0020 LET M$20=M$2(4)
0021 LET M$21=M$2(5)
0022 LET P0=0
0023 FOR I=1 TO 32
0024   DOA=AT N=3.0,M$1(I)
0025 NEXT I
0026 IF 30.08 THEN LET M$=SC
0027 LET P0=P0+1
0028 IF P0=32 THEN LET P0=0
0029 IF P0=18 THEN PRINT AF 18.1
0030 PRINT AT X,Y: AT 18.18,0
0031 PRINT AT 3.0,SC AT 3.18,0
0032 IF X=0 AND Y=0 THEN GOTO
0033 LET X=X-1
0034 LET Y=Y-1
0035 LET X=X-1
0036 LET Y=Y-1
0037 LET X=X-1
0038 LET Y=Y-1
0039 LET X=X-1
0040 LET Y=Y-1
0041 LET X=X-1
0042 LET Y=Y-1
0043 LET X=X-1
0044 LET Y=Y-1
0045 LET X=X-1
0046 LET Y=Y-1
0047 LET X=X-1
0048 LET Y=Y-1
0049 LET X=X-1
0050 LET Y=Y-1
0051 LET X=X-1
0052 LET Y=Y-1
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0057 LET X=X-1
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0064 LET Y=Y-1
0065 LET X=X-1
0066 LET Y=Y-1
0067 LET X=X-1
0068 LET Y=Y-1
0069 LET X=X-1
0070 LET Y=Y-1
0071 LET X=X-1
0072 LET Y=Y-1
0073 LET X=X-1
0074 LET Y=Y-1
0075 LET X=X-1
0076 LET Y=Y-1
0077 LET X=X-1
0078 LET Y=Y-1
0079 LET X=X-1
0080 LET Y=Y-1
0081 LET X=X-1
0082 LET Y=Y-1
0083 LET X=X-1
0084 LET Y=Y-1
0085 LET X=X-1
0086 LET Y=Y-1
0087 LET X=X-1
0088 LET Y=Y-1
0089 LET X=X-1
0090 LET Y=Y-1
0091 LET X=X-1
0092 LET Y=Y-1
0093 LET X=X-1
0094 LET Y=Y-1
0095 LET X=X-1
0096 LET Y=Y-1
0097 LET X=X-1
0098 LET Y=Y-1
0099 LET X=X-1
0100 LET Y=Y-1

```


Based loosely on the popular TV game, Gold Circle One is a family party for eight (but not more).

The signal is in spot the odd
even set of the four deployed
beams set may and some are not
in-use

I have given a lot of examples in my listing, but the little Spectrum can hold many more. And owners of the 486C model could speed it all up with a dictionary.

Each set of three starts on blocks of 50 lines from 1000 to 9999 and additional are very easy, if you remember to change lines 725 and 730.

The game finishes when a player has scored 100, but this can easily be changed by altering line 9470. Line 9450 adds 10 for every red score and line 9453 deducts five for a white player.

a. Handy door-to-door
business industry

[illegible][illegible]

Who'll be first to say: 'That's odd'?

All the family can join in and play Robert Perk's game for the 16K Spectrum. And it's easy to extend to make it even more challenging.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Users must first download our software easily for the PC/XT with at least 1MB, provided the graphics and printers are installed. Owners of other computers should bear in mind that the 386C runs screens at 256 by 375 pixels. The only other problems will be the mouse.

REINHOLD F. ALPHEUS, JR. and the
Spectrum colour commands
1 letter, 1 and 2 rows, 1 column

1. The first step is to identify the problem.
 2. The second step is to define the problem.
 3. The third step is to analyze the problem.
 4. The fourth step is to develop a solution.
 5. The fifth step is to implement the solution.
 6. The sixth step is to evaluate the solution.
 7. The seventh step is to monitor the solution.
 8. The eighth step is to maintain the solution.
 9. The ninth step is to improve the solution.
 10. The tenth step is to document the solution.

FLUOR, the Spectra's graphed output is 123 x 174 pixels.

The American Academy of Pediatrics is positive about the IDEA's long-term effect on the IDEA's success.

F.A.I.T.H. is used to show how the
Experiment and F.A.I.T.H. is using
the program will save lives by

1991. The 1991 model was only better 20 and 29% for Spectral and overall accuracy.

EMM performs an error analysis with estimates of the standard error of the EM in (2.11) with up to 10 series of characters: is usually

2002-2003 Survey Report for the Department of Health and Human Services

© 1995 by The McGraw-Hill Companies, Inc.

WELF is also a fine opportunity to enjoy
-with all having the chance to enjoy
-the best of both.

```

100 PRINT AT 13,5;"          JOKER      "
110 PRINT AT 14,5;"          "
120 PRINT AT 15,5;"          "
130 GOTO 7: PLOT 7,7: DRAW 241,8: DRAW 8
140 DRAW 241,8: DRAW 8,-161
150 GOTO 9400
160 PAUSE 100
170 CLS : PAPER 5: INK 5: CLS
180 PRINT AT 3,3: PAPER 2, INK 7;" GDD
ONE OUT "
190 PRINT AT 6,8:"The subject of the game
is to let a player to identify the odd it
em in a series of four items."
200 PRINT AT 10,8:"These four items will
be shown on the screen, and the odd it
em is recognized press any key"
210 PRINT AT 14,8:"You score 10 for each
correct answer and lose 5 for each
incorrect answer"
220 PRINT AT 20,2:" Press any key to c
ontinue..."
230 PAUSE 0
240 CLS : PAPER 5: INK 1: CLS
250 PRINT "Now many players are there ?"
260 INPUT A
270 GOTO 210

```

```

340 DIM A$(10)
350 PRINT : FOR n=1 TO 4
360 PRINT "What is your name, player #";
    IN
370 INPUT B$(n)
380 PRINT B$(n)
390 NEXT n
400 GO TO 380
500 CLS : PAPER 4:
    INC #; CLS
510 PRINT
520 PRINT
    "Your scores
are as follows:
530 PRINT
540 FOR n=1 TO 4
550 PRINT A$(n) TO 113
560 PRINT "Has been scored " P(n)
570 PRINT
580 NEXT n: PRINT "Press any key to con
tinue..."
590 PAUSE 0: PAUSE 25: RETURN
600 CLS : PAPER 1: INC #: BORDER 1: CLS
610 FOR n=100 TO 40 STEP -40
620 PLOT 3, n: DRAW 344,2: DRAW 0,-20: D
RAW -244,0: DRAW 0,20

```

1000

- number of players
- initial value of property
- maximum bid (maximum = \$100)
- number of bids (maximum = 10)
- we are interested in the probability of a player winning
- input data:
 - 100,000 games simulated
 - a series of each player's last 1000 wins
 - output: distribution of wins
- will find word string
- will return list of words (string)

16K SPECTRUM PROGRAM

```

600 NEXT a
610 PRINT AT 2,2;"1" AT 2,2;"2" AT 12,2
  AT 2;"3" AT 12,2;"4"
620 PRINT AT 20,0;"PLAYER NO "a;"-"a$
  $a$
630 RETURN
700 FOR i=1 TO a
710 GO SUB 800
720 LET a=i+INT (RND*3)
730 LET d=i+INT (RND*17)
740 GO SUB (a)*800+(d)*500
750 PRINT AT 2,INT ((30/2)-(a/2));a$ AT
  2;a$
760 INPUT "Enter 11 next word(2)guess(3)
  11:"$
770 IF i=1 THEN GO TO 3000
780 IF i=2 THEN GO TO 3100
790 IF i=3 THEN GO TO 320
790 PRINT AT 2,INT ((30/2)-(a/2));a$(a
  1 TO a$)
800 INPUT "Enter 11 next word(3)guess(3)
  11:"$
810 IF i=1 THEN GO TO 3000
820 IF i=2 THEN GO TO 3100
830 IF i=3 THEN GO TO 320
830 PRINT AT 12,INT ((30/2)-(a/2));a$(1
  +a$ TO a$)
840 INPUT "Enter 11 next word(2)guess(3)
  11:"$
850 IF i=1 THEN GO TO 3000
860 IF i=2 THEN GO TO 3100
870 IF i=3 THEN GO TO 320
870 PRINT AT 12,INT ((30/2)-(a/2));a$(1
  +a$ TO 3
880 INPUT "Enter(3)guess(2)11:"$
890 IF i=1 THEN GO TO 3000
900 IF i=2 THEN GO TO 3100
910 GO TO 320
920 LET a=0
930 LET a$="TENNISPOWER COLLARDOLL"
940 LET a=4
950 LET a$="base..."
960 RETURN
970 LET a=4
980 LET a$="DEALWALTER FOOT"
990 LET a=3
1000 LET a$="squares..."
1010 RETURN
1100 LET a=5
1110 LET a$="CROWN CAP HAT BRIDGE"
1120 LET a=3
1130 LET a$="they are delectable items"
1140 RETURN
1150 LET a=3
1160 LET a$="NEW YORK LONDON PARIS
  ROME"
1170 LET a=1
1180 LET a$="they are capital cities..."

```

```

1190 RETURN
1200 LET a=6
1210 LET a$="NEW CHILD NONSENSE(1)DIOM"
1220 LET a=2
1230 LET a$="post..."
1240 RETURN
1250 LET a=3
1260 LET a$="DEAN ARCH LIGHTSUSPENSION"
1270 LET a=3
1280 LET a$="types of bridges"
1290 RETURN
1300 LET a=5
1310 LET a$="NEW KAPPA DELTAALPHA"
1320 LET a=1
1330 LET a$="the Greek alphabet..."
1340 RETURN
1350 LET a=6
1360 LET a$="SHUTTER DOOR LENS APE
  PICTURE"
1370 LET a=2
1380 LET a$="parts of a camera..."
1390 RETURN
1400 LET a=6
1410 LET a$="SCORCH PROTON NEUTRONELE
  CTROX"
1420 LET a=1
1430 LET a$="parts of an atom..."
1440 RETURN
1450 LET a=5
1460 LET a$="VIOLET GREEN PASTINDIGO"
1470 LET a=3
1480 LET a$="colours of the rainbow"
1490 RETURN
1500 LET a=13
1510 LET a$="PTERODON TITANOSAURUS
  TRICERATOPS DIPLODOCUS "
1520 LET a=1
1530 LET a$="land based dinosaurs..."
1540 RETURN
1550 LET a=3
1560 LET a$="APOLLO POSEIDONAPHRODITE
  JUPITER "
1570 LET a=4
1580 LET a$="Greek Last Roman3) Gods..."
1590 RETURN
1600 LET a=3
1610 LET a$="PI EXP16477"
1620 LET a=1
1630 LET a$="sequence of the alphabet"
  17..."
1640 RETURN
1650 LET a=4
1660 LET a$="3223411422341143"
1670 LET a=4
1680 LET a$="adds to 10 post 5..."
1690 RETURN
1700 LET a=6
1710 LET a$="LORD OF THE HILL CRUICK"

```

16K SPECTRUM PROGRAM

```

2120 LET a=1
2130 LET y$="leech....."
2140 RETURN
2150 LET a=0
2160 LET u$="PIBBLE CLYDE HILL TEESOMLE"
2170 LET a=2
2180 LET y$="English rhyms...."
2190 RETURN
2200 LET a=0
2210 LET u$="FIREFOMNET LIFE"
2220 LET a=0
2230 LET y$="wild..."
2240 RETURN
2250 LET a=2
2260 LET u$="TWISHERUKING JUPITERDOME"
2270 LET a=4
2280 LET y$="American space satellites..
.."
2290 RETURN
2300 LET a=0
2310 LET u$="CYRIL DRUM ACHIE LOBE"
2320 LET a=1
2330 LET y$="eat..."
2340 RETURN
2350 LET a=5
2360 LET u$="REP FLOORCTERWALL"
2370 LET a=3
2380 LET y$=".....tiles"
2390 RETURN
2400 LET a=4
2410 LET u$="GOODJACKDESKPAPER"
2420 LET a=2
2430 LET y$=".....new...."
2440 RETURN
2450 LET a=3
2460 LET u$="111011211001"
2470 LET a=3
2480 LET y$="booby..."
2490 RETURN
2500 LET a=4
2510 LET u$="MOOSUM GOODLIES"
2520 LET a=1
2530 LET y$="...day"
2540 RETURN
2550 LET a=4
2560 LET u$="STOPHONKSTOPE"
2570 LET a=3
2580 LET y$="yable shifted commands"
2590 RETURN
2600 LET a=4
2610 LET u$="LIVESGOODDEVILULE"
2620 LET a=2
2630 LET y$="the letters L-I-U-E..."
2640 RETURN
2650 LET a=4
2660 LET u$="WINGFORTFOREIGNSHIP"

```

```

2670 LET a=1
2680 LET y$="parts of a disk..."
2690 RETURN
2700 LET a=0
2710 LET u$="SPHERCIRCLE CONE PYRATED"
2720 LET a=2
2730 LET y$="three dimensional shapes..."
2740 RETURN
2750 LET a=2
2760 LET u$="MUGGOLAR"
2770 LET a=4
2780 LET y$="Roman numerals..."
2790 RETURN
2800 LET a=3
2810 LET u$="KILG FOUNDERILLISORD"
2820 LET a=3
2830 LET y$="...area"
2840 RETURN
2850 LET a=5
2860 LET u$="FRAND PLANTBATCHOUGHT"
2870 LET a=3
2880 LET y$="rubber..."
2890 RETURN
2900 LET a=5
2910 LET u$="CAUC HOUSEHOLD ORBIT"
2920 LET a=1
2930 LET y$="round..."
2940 RETURN
2950 LET a=5
2960 LET u$="SEAKETOCHTIVE PUDDING"
2970 LET a=3
2980 LET y$="with..."
2990 RETURN
3000 LET a=0
3010 LET u$="ARCTIC ANTARTICATLANTICAC
IFIC"
3020 LET a=2
3030 LET y$="...seas"
3040 RETURN
3050 LET a=4
3060 LET u$="RUSEBAG USASURE"
3070 LET a=2
3080 LET y$="the letters U-R-S-E..."
3090 RETURN
3100 PRINT AT 2,INT ((31-2)-(a+2))a+1:1
0:1
3110 PRINT AT 2,INT ((31-2)-(a+2))a+1:a+
1:10:a+2
3120 PRINT AT 12,INT ((31-2)-(a+2))a+1:
a+2:10:a+3
3130 PRINT AT 17,INT ((31-2)-(a+2))a+1:
a+3:10:1
3140 PRINT AT 20,2:a," use the odd one,4
is high one..."
3150 PRINT AT 21,2:y$
3160 GO SUB 5400
3170 PAUSE 120

```

```

0000 GO SUB 500
0000 IF k=0 THEN LET k=0
0005 NEXT k
0100 INPUT "What is your guess-1,2,3,or 4
?";a
0100 IF k=0 THEN PRINT @ 20,0;"Sorry,
you were wrong!"; PAUSE 50
0100 IF k=0 THEN LET p=1;p(0)=0: GO 0

```

Conclusion

**It's easy
to complain
about
advertisements.**

Page 32 HOME COMPUTING WEEKLY 4 September 1987

COMMODORE 64 PROGRAM



ADVENTURES

for

ATARI 400/800 32K BBC 32K

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What the reviewers say

"The descriptions are so good that few players could fail to be entranced by the illusion of the mythical worlds where they are the hero or heroine."

The booklet supplied with each program is very helpful. Extensive information is supplied about the game scenarios, saving your current position on tape and there are hints about the sort of words which are understood by the computer. Each of the games has a vocabulary of about 200 words.

The Level 9 programs are great fun to play, and plenty happens to keep you bemused and amused for hours on end."

— *Which Micro & Software Review*, August

A master example of programming

"An impressive suite of adventures. They are always a pleasure to play."

— *Popular Computing Weekly* 12 May & 27 June

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Games of the unexpected for the unafraid...

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A medieval world this means of feudal chivalry both as a full role-playing game and as a tape. Available in 12 or 16 sessions. 24 pages. £10.00 each. Includes a number of historical images to read. Your imagination will find the world to provide the most exciting. This is the first of the series.

A full board wargame, which has been designed to be both a role-playing game and a board game. It is a full role-playing game, with a full board wargame. It is a full role-playing game, with a full board wargame. It is a full role-playing game, with a full board wargame.

For more details, see the ASP website.

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STARTTECH

208 Aigburth Rd, Aigburth, Liverpool L17 0SL T21-7267

Eller Gorilla BBC B £7.95

Program Power, 216a Regent Street, Chertsey, Surrey, Middlesex TW20 9PE

Put on your head hat and vest, rush down to the bus stop and meet the bus drivers from the jungles of King Kong's lair.

You'll need quick reactions to play Program Power's version of this game that sends your hero clanking about a partly built skyscraper, gathering the young lady's dropped possessions as he goes.

Just to make life more interesting, the gorilla keeps throwing down a spirit box for rage of building the debris to clear the tower's climb.

Points are awarded for a speedy result and the number of retained possessions. As with

most games of this type, a single piece of one level is rewarded by being placed in an even more difficult situation for the next level.

Excellent graphics and sound effects with good use of colour. I think the effort is better if the character is turned left, though, as the steps the screen jitters. **A-1**

★★★★★



Red Devils Oric-1 £4.95

Phoenix, 35 Hounds Road, Chipping Sodbury, Bristol BS17 4EQ

The name of this program is still the subject of Manchester United football team, and their

share as winners the honor of displaying the opponent's Lord not even multiply rapidly as the screen blinks your way as you travel towards the center of the four corners of the screen, where you pick up points.

If you become unbalanced, you might be able to use an escape hole, otherwise all you

can do is to give up by pressing "ESC".

The instructions provided are very limited, but at the same time simple, this proved no real problem.

The display is colorful, and a variety of sound effects add interest to the game. However, the all-BASIC program may be a bit

disappointing for arcade game enthusiasts. **D-5.**

graphics 100%
playability 60%
graphics 100%
value for money 60%

★★★★

Crazy Painter TRS-80 Models I & III £12

Monopoly 41 Tyne Road, St. Asaph, Cheshire FL23 5NJ

The advertisement for this game does not, in my opinion, do the product justice. The story of the game is to paint the corners of the TRS-80 white, using the software as a palette of available

There is a dog that occasionally appears on the right of the screen and occasionally your paintbrush leaving black paw prints. There is also a puppy that holds a telephone. Finally, a cat and a telephone bucket

that you not only draw when it is too thick.

In addition to the normal game of painting points for stepping the dog, leading the paint into the telephone bucket and putting the screen white, the screen has the additional feature of sound, pressing it gives white noise and very fast action.

To this the game has a touch of the Mac theme and would you fairly appear to those who liked that game. One or two people may play in a variety of skill levels.

graphics 80%
playability 80%
graphics 80%
value for money 80%

★★★★

Pearl Diver TI-99/4A (Extended BASIC) £8

Lumax Software, 4 Haffenden Road, Tonbridge TN10 9QD

Pearl Diver must be the underwater version of Frogger. Two down men dive to the sea bed, down men, fish, bubbles and other sea creatures, but that's not all — they also have to avoid the sea creatures that swim across their path.

When the diver's air supply is running short, a siren blares and in real time it reads. Before it starts when the warning time expires the end of the bubble down. The game ends when no diver is left.

Control of movement is by the keyboard. It's disappointing that there is no screen for a joystick.

A chance of one exit level, while the game appears to play too it is certainly enjoyable. **B-10**

graphics 100%
playability 100%
graphics 100%
value for money 100%

★★★★



Bombs Away TI-99/4A (Extended BASIC) £8

Lumax Software, 4 Haffenden Road, Tonbridge TN10 9QD

There are no instructions with this 48, 99 keyboard-type program. But clearly, the text is so

easy to the ground 20 minutes before the game begins to play.

Having performed this for several years you are then taken through a stage of more and more, each involving the destruction of enemies or your base.

When you complete the level, you are awarded a gold medal

at a greater degree of difficulty. It would have expected more than one computer. It can be quite frustrating when simple mistakes leave you to begin again.

A rating score of the destruction is displayed, being higher according to the degree of difficulty involved in the game's levels and if named, 50 medals.

Colorful set of graphics is made, and degree the speed

operation of some Version 1.0 Extended BASIC, somewhat in two too slow.

graphics 80%
playability 100%
graphics 100%
value for money 100%

★★★★

The double life of Stainless Software's supremo

Most TI 99/4A owners seem to agree that what is a wonderful machine — but the big problem is, you can't get software for it easily.

Stephen Shaw is a great fan of the TI, whose solution to the software shortage was to set up his own company to get hold of some. Stainless Software, the UK's largest independent supplier of TI programs, was the result.

Stainless's current catalogue has 71 programs: 41 of these, Shaw writes for UK programmers under the Stainless label. The other 30 are imported from a selection of North American TI software companies. There's something in there for all tastes: arcade games, animal games, utilities, adventures, even a top tag tutor.

Stephen settles with Cindy run the software business from a corner of the dining room in their H25K home at 80 Abingdon Road, Stockport. From this modest base they deal with orders, do some duplicating, and produce the Stainless catalogue — which also acts as a kind of newsletter, with information on cassette carts, mail orders of the TI User Group.

During the day, they both work as bank clerks — Stephen at Wilmslow and Cindy at Netherley.

But though they both work in banks, they aren't exactly keeping all the way to one on the proceeds from Stainless. Shaw

Britain's biggest independent TI software dealer is a dining-room business. Candice Goodwin talked to Stephen Shaw, who's a bank clerk by day and runs Stainless Software in the evening

however is "big enough to register for VAT" — more than £20,000 — but in the first quarter of 1983, Stephen says Stainless made a small loss.

"With only 20,000 TI-99/4A owners in the UK, even my most popular game won't sell more than a couple of thousand copies," he explained. "Fortunately, my interest is in the TI — the sales are really just to support the store. I'm not in it for the money, so I sell at the best price I can — I deliberately keep my profit margins low." Then speaks a true enthusiast.

Stephen's interest in com-

puting was first awakened 10 years ago when Commodore announced the PET. He said: "For a businessman for science and maths, and though I'm not an academic sort, I like to apply logical principles. I was interested in a way to do this."

He went off the details of the PET — and was "discreetly ignored" by Commodore. But Texas Instruments had a store in Manchester where Stephen saw a fair amount of the press. TI-99/4A. He borrowed the machine at weekends, and went to TI to find out more. "Unlike personal class, TI did respond to letters", he recalls.

He was attracted to the TI machine on several counts. "It's easy to program — the BASIC is well arranged. It's easy to hook it up to peripherals. For example, other computers have a difficult decision command. It's very easy to set up the TI and the computer itself is easy and intuitive. It sits in the dining room very nicely." In October 1981, he finally got his hands on a TI of his own.

But despite being a charter member of the TI, an American magazine for TI owners, and a founder member of the TI User Group, Stephen found there was "a lot of information but not very useful" for the TI.

After sending off to the US for programs for his own use, he decided to try and distribute US software in the UK himself. When he signed his first contract in June last year, with New Polytechnic, there were a mere 300 TIs in this country.

With numbers like that, large software stocks just weren't on. So Stephen arranged to produce copies from a master tape supplied by the software company, and pay them a fixed percentage of the US price per copy — an arrangement which he still uses today.

But he realised "this provided America is a problem" in selling software from the US, where connectors are used to permit 120-17 pin programs. Sometimes Stephen ends up selling programs for less than their selling price in the US.

Though he's looking to his evening US supplier, Stephen is now trying to get hold of more material from UK software houses. He currently has two regular programmers and about 30 or 40 others, most of which he got in contact with through the appeal for programs to his magazine.

Stephen has one regular dealer, Galaxy Software, but he's wary of relying on the whole because he says: "They want huge discounts. Whereas in the US they'll take 30 per cent off the retail price, over here 50-60 per cent is the norm. It's hard to keep prices down, that's all I tried to promote, discounts."

And I think the TI-99/4A really is a credit to dealers — they don't want customers that you can't use arcade-type games — TI BASIC. What's in my amateur catalogue, I can wear people that TI BASIC games will do fine.

"My biggest problem is the TI itself. It's very good as what it does, but that experienced machine won't do what people often buy it for — playing arcade games."

To help people see the light about this much misunderstood computer, Stephen is currently writing a book for Phoenix Publishing describing the TI. Though he's only written about 40,000 words so far, he plans to have it finished for Christmas, and that'll contain "a lot of information which isn't available elsewhere."

He's also looking forward to the new TI computer, which he "definitely will" be selling software for. A TI line to the last, he believes this machine "will be superior to the BBC — after all, it will be faster, have more memory, and more RAM. It may be being in use by Christmas, it could wipe the English market clean."



Stephen Shaw — a true TI enthusiast

DRACON PROGRAM

Before long, most home computer users want to do something more constructive than play games and run database programs on their money.

Use it as a tool to store everyday information. It could be an address book — with space for birthdays — or keep track of your record or tape collections.

If you do not own a printer, you have 1989, 1990, 1991-1993, 1994, 1995 and 1996 to 1999 and after last issue a total of 1014.

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[illegible]

Before BLINDING enter an address comment
PCLEAR:NEW. This has the effect of PCLEAR, going
11215 bytes from the top.

If all is successful you will be greeted with the question: "TAPE FILE OR TAPE INPUT UNIT?" Enter M to the prompt and the following line will appear: "TAPE FILE OR TAPE INPUT UNIT?"

This is the heading under which the information is stored and you would enter NAME, or SOME TITLE or any other heading of your choice.

Can the system for the other three

If you were using the program to store names and addresses the first field would be NAME, the second would be ADDRESS, you would enter THE No. for the

Make your micro do some useful work

Keep tracks of every-day information with Alan Gray's database program for the Dragon

Word and METHOD for the Results

After you have entered the format, the main menu will appear. It is self-explanatory except for a few items. The

This program you re-examines the cassette recorder to find any data file no trace.

If you have a printer, I have included a machine code screen dump which can only be used during the search routine. When you find an entry you want printed, press the space bar. This will execute the machine code routine and then return for the next item.

Figure 1 *Effect of the average number*

```

1  NEW BIRTH LIVING FORDS, & NEW
2  CLARK SR, 1940
3  IN: 000000
4  (P) NEWBORN, CENTER DE: 000000, DE: 000000
5  IN: 000000
6  IN: 000000
7  IN: 000000
8  IN: 000000
9  IN: 000000
10 IN: 000000
11 IN: 000000
12 IN: 000000
13 IN: 000000
14 IN: 000000
15 IN: 000000
16 IN: 000000
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96 IN: 000000
97 IN: 000000
98 IN: 000000
99 IN: 000000
100 IN: 000000

```

Abstract

- F1**: flag for entry to program
- NFC**: number given by
- NSR**, **QSR**, **TDR**, **WDR**: index of fields
- RPR**: register address
- SR**: set range
- M-value** of **CX**
- SF**: flag for new data entry
- I**: unit counter
- TR**, **CR**, **TL**, **WR**: data
- D**: replace entry counter
- CX**: get value
- E**: value of **CX**
- AS**: get input for target string
- LPR**: low level document

can as low. Mill-clears the printer buffer before any printing is done.

Playboy: Where are the greatest boys
coming from? (The magazine has found 100)

[illegible]

The program is written in Dragon's Microsoft BASIC — with a few modifications for the copying of the tapes — so conversion should pose few problems.

DRAGON Journalists who don't carry **POWER ASSISTED** speeds up the Dragon and **POWER ASSISTED** speeds up the Dragon.

FRONT is on the Danger. TOP
and all others in the same position
are in the same position.

© 2005 Blackwell Publishing Ltd, *Journal of Internal Medicine* 257: 105–112

removed separately from the main body of the program as Open-Source creation will have to write these mechanisms by replace them.

Lines 1800-1900 are some-
times the most difficult to read
and least the understood.

The machine's wide-screen dump can, on the Spectrum, be replaced by the copy command. Chains of price computers will have to wait the tables—or the machine's.

[illegible][illegible]

DRAGON PROGRAM

[illegible][illegible]

£1,000



software to win — just find the words for your share

THERE are 25 chances to win in another free, snap-to-order competition from Home Computing Weekly.

We're giving away £1,000 worth of software for the Spectrum and Dragon from CRL, the new force to be reckoned with in software.

And all you have to do is to find words hidden in the cover of 25 CRLs and put them together to form a sentence.

Each of the 25 prizes is software to the value of around £40 for the Dragon or for the £55 Spectrum.

If you're a Dragon owner these are the great titles you could win.

Dragon	Jet in Space
Blackline Golf	44 Leving and the Dragon
Ranger	Laser Rider

And winners with £55 Spectrums will also select from the following titles:

Lander	Forest Rescue
Location	Jurassic
Topa Mart	Alarm Maze
Valerie Point	Shirley Day
Warrior	Jackpot
20 (Sweet) Patrol	Snuggly Secret

As a special bonus to HCW readers there's a 10 per cent discount voucher on the page which you can use for any CRL product if you order direct from CRL. It means you get more if you're not joining the race very late this time.

But please remember: send the competition entries to us and any orders direct to CRL. The vouchers will not be accepted at shops.

How to enter

Scattered throughout the cover of Home Computing Weekly are several words, set in this type.

You have to find all the words, build a sentence from them and then write the sentence in the space provided at the bottom. Fill in the rest of the coupon, including the words Dragon and Spectrum, depending on which sort of prize you would like.

Copies of the coupon will not be accepted. And you must write in large letters on the back of the envelope the number of words you have found from the page in square.

Entries which do not meet these conditions will not be considered.

Post your entry to: CRL Competition, Home Computing Weekly, 140 Charing Cross Road, London WC2H 9EE.

You have until five past on Friday September 23 and your entry to win the software and the money of the money will be published in the next edition of Home Computing Weekly.

This exciting contest will be the first 25 computer entries we open. The prizes will arrive from CRL within 28 days of the judging.

The small print

The first 25 correct entries drawn in open on Friday September 23, 1983, will win the prize.

Coupons which are not fully completed and envelopes without the number of words found on the back will not be considered.

Entry will not be accepted from employees of Argus, Spectator Publications, CRL and Associated Pressures & Sons. This restriction also applies to employees' families and agents of the company.

The winners' names and the solution will appear in Home Computing Weekly. The winner's address in Great Britain correspondence will be entered into.



1983
The new force in software
CRL
1st and 2nd prize money to £1,000
Full software range from September 23, 1983

CRL Competition

Entry Coupon

Name

Address

post code

Computer

Your software

Post to: CRL Competition, Home Computing Weekly, 140 Charing Cross Road, London WC2H 9EE. Closing date: five past Friday September 23

Arcade action to take home

**Zap...pow...splat... It's all
happening in these arcade
lookalikes, played and rated
for you by our reviewers**

Cosmic Debris 48K Spectrum £4.95

Amul, 36 Jarrow Road, Ave,
Hull HU10 5DA

Cosmic Debris is a version of *Agony* sold. I have always enjoyed the arcade release, make this game a winner and Amul's version lives up to my expectations. The graphics are excellent and

smooth and the sound effects have true arcade flair.

If you are in the way of an asteroid, which happens quite frequently, your spaceship, although and a series of rapid laser repeated between and beyond the sides of the screen. This sort of rapid effect is repeated within a lot of scenes and the overall effect is quite impressive.

An occasional alien craft appears dropping helplessly, to make the more difficult for you.

Space Fighter 12K BBC £7.95

Sprocor Software, 48 Leach
Road, Broomfield, Leeds

The arcade style game is based on *Galaxian* from *Defender* and *Demolition*. Your spaceship whizzes over the surface of a planet while you shoot out jets to attack all sorts of, making sure to hit the occasional hard enemy to keep you supply-ramped on.

The alien have different characteristics. The faster they move the more they shoot. They can also shoot out jets to attack you, making sure to hit the occasional hard enemy to keep you supply-ramped on.

The game has no levels and you can shoot through one to stage with — very useful if you haven't quite managed to reach your score.

When you have managed to reach all three stages, your overall score is displayed and you can see the 'High Score' if it's one of the highest ever played on the machine.

The only disappointing feature of this program is that you are not allowed to shoot down or attack along with your score. But, for a game, it's not a bad one.

Through to the different stages. The program loaded perfectly and the sound, display and graphics are excellent. Although I would have liked to see the alien enemies when he rather than just shoot.

There are no instructions to say or compare to compare and although it may not be as good as the other two, it's still a good game. *Defender*, the best of both systems leaves the number of stages you will come back to play it.

Why is BBC software so good, saying that the other two are good? For the same reason. For the same reason. For the same reason. For the same reason.

100%

instructions 100%
playability 100%
graphics 100%
value for money 100%

★★★★

Scramble 64 Commodore 64 £7

Interceptor, Middles, London
House The Green, Tadley,
Hants

You are the pilot of a space ship that you find in front of the alien ship and into the screen of the game and the ship.

Your ship is limited. It can be supplemented by developing the three field program. It's not the best of the best, but it's not the best of the best.

How many levels and how many which the alien ship and the alien ship.

The instructions are clear but my fingers were not quite enough to cope with keyboard.

overall. With a joystick you will control the ship and shoot the alien ship for the alien ship.

Once you have reached the surface of the planet, you can see a little control panel. It's not the best of the best, but it's not the best of the best.

When you have reached the surface of the planet, you can see a little control panel. It's not the best of the best, but it's not the best of the best.

How many levels and how many which the alien ship and the alien ship.

★★★★

Defender Atari 400/600 £50 (Cartridge)

From Atari Stockists

There is only one option for the computer here — the BBC version.

The version is not — and no. Graphics are excellent. The alien ship is a little more difficult to shoot than the other two.

How many levels and how many which the alien ship and the alien ship.

The instructions are clear but my fingers were not quite enough to cope with keyboard.

from the game as a whole. My family found it so difficult that I had a struggle to get a score on the keyboard.

★★★★

instructions 100%
playability 100%
graphics 100%
value for money 100%

★★★★

Avenger VIC-20 £20 (Cartridge)

From Commodore 64/128

When you have reached the surface of the planet, you can see a little control panel. It's not the best of the best, but it's not the best of the best.

at most publishers are somewhat limited about what they can do. It's a little more difficult to shoot than the other two.

How many levels and how many which the alien ship and the alien ship.

The best machine is the one that has the most of the best of the best.

★★★★

instructions 100%
playability 100%
graphics 100%
value for money 100%

★★★★

SPECTRUM PROGRAM

[illegible]

```

2000 PRINT B1,AT S.S. FROM 1."
DO YOU REALLY WANT TO GIVE UP -
      2001 IF INKEY$="Y" THEN GO TO 2002
2002 IF INKEY$="N" THEN STOP 1.0
PRINT B1,AT S.S. PAPER 2."
      2003 GO TO 2000
2004 GO TO 2010
2005 FOR A=1 TO 35 FOR S=1 TO 5
2006   CLS
2007   CLS
2008   CLS
2009   CLS
2010   CLS
2011   CLS
2012 GO TO 2005
2013 FOR A=1 TO 5 FOR S=1 TO 7
2014   CLS
2015   CLS
2016   CLS
2017   CLS
2018   CLS
2019   CLS
2020   CLS
2021   CLS
2022   CLS
2023   CLS
2024   CLS
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2026   CLS
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2201   CLS
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2240   CLS
2241   CLS
2242   CLS
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2250   CLS
2251   CLS
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2255   CLS
2256   CLS
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We welcome program articles and tips from our readers.

PROGRAMS should, if possible, be computer printed to a width of 48 characters (use a new ribbon) and/or sent on cassette. Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and links on completion.

ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in *NCW*. Articles must clearly be published will help our readers make better use of their micros by giving useful ideas, possibly with programming examples. We will convert any sketchy illustrations into finished artwork.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

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Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Lipsett, Home Computing Weekly, 1st
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One more we bring you the best Microfair report. Paul Liptrout went to Alexandra Palace, where the next Microfair will also be held on December 3 and 4

All the

253 accounts and, with an adaptor, produces an 18 column print-out. OCP also has The Address Manager which is very, very good: more than 400 full names and addresses — or more than 1,500 individual names — on a 48K Spectrum with three ways of

doing and easy entry and editing.

More business programmes to follow.

New educational tapes from **Puppy Programs** include Hidden Letters, priced at £5 for the Spectrum, in which children from the age of five establish which letters are hidden by black spots. Parents and teachers can adjust the difficulty.

Telling the Time, written by 13-year-old Stephen Holford for children of three to six, has eight levels of difficulty. One costs £1. Another, Reading Random 1, for the two-to-six age group, in which children match pictures to words. It will come with a keyboard number for small children so they need not find a particular key.

A clip-on Spectrum joystick was shown by **Berry Manning**. On sale this month for £9.95, it fits over the top row of keys and depresses the correct keys.

Remoth had £9.50 joystick instruction to link the Jupiter Ace with four-colour proto-players marketed by Tandy and other companies. And, for £1, the firm has a set of control pads which fit under the keys and are designed to improve control. Remoth is also working on a text editor for the BBC micro.

Business Software brought out two new Spectrum arcade games for £4.95 — **Home Runner** and **Scoring Star** — in

Torrey. **Art Matheson** took time off from teaching for GCSEs to sell his self-written software — five tapes for the Spectrum and one for the Jupiter Ace.

Jon, 14, is the joint-time producer of **25 Software** which he runs from his home in Dorset, Dorchester.

He boasts his first computer, a Z801, in 1980 and is now studying for GCSE levels.

He said: "It's done got quite big. I'd quite like to go into business — but I'm not sure if that's exactly what I want to do."

"My main ambition is that I'm doing now is quite a good idea, but they think I should be spending more time studying."

Jon's Spectrum programs are **Myograph** (rated a C) 19 which sets up a local North Pacific island. **Samurai**, a space arcade game costing £4.95, **Spectrum Voice**, which creates music and speech on the Spectrum for £2.95, a £3.75 version of **Star Trek**, and a program for making back up tapes called **Spectrum Backup** and priced at £1.30.

His Jupiter Ace tape, costing £3.95, is called **10 All Time Greats** and features versions of familiar games.

Jon's new release will be a Spectrum arcade game called **30 Trails**.

Your favourite programs can be installed first using **RAMDISK** — now **Camel** where Spectrum software is stored — or data collected into other computers.

Prised at £14.44, the tape opens to allow a 256K or 272K EPROM to be plugged in. Other add-ons can be plugged in to the back. Data transfer to a RAM with the **PUMT USB** command.

Camel, made under a **Cambridge Microelectronics** licence, is also bringing out a low-cost 256K EPROM programmer.

Geoff Mathers, who set up **Primer Software** in mid-Mid, has four Spectrum programs with three more planned for autumn release.

And's **Korner**, for children aged six to nine, is £4.95, **Image Compiler** and **Graphics Editor** are £5.95 each, and **Jason**, an adventure based on mythology, is £3.95.

Coming soon are **Drill Play**



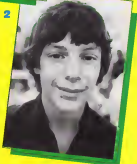
big, a familiar sounding name for a game which involves floating trip sheets. **Andromeda**, in which your space fleet is challenged to conquer the galaxy, and **Tennis A**, Spectrum simulator costing £9.95 should be available from the end of the month.

Michael Bell, proprietor of **Artemus Computer Centre**, was showing his **Sound Power Basic**, costing £14.95, which fits under the Spectrum — (using a forward 15 degree) — and features a speaker with controls for loud and soft, clear voices and power and volume.

There is a £13.50 model with no sound generator and a battery-powered amplifier for £5.

Oxford Computer Publishing launched a new range of software designed to help run small companies and clubs and for home management.

Physicist Manager, costing £9.95, is said by owner **Primer** to be faster and better than spreads because it is mostly in machine code. It can handle



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